

ABSTRACT

Disclosed is a mechanical apparatus for gripping and manipulating tubular members, such as drill pipe. The apparatus is essentially an automated slip puller, which generally comprises a slip base, a pulling mechanism pivotally attached to the slip base, and at least one cylinder or spring attached to the pulling mechanism. The entire apparatus is releasably connected to a rotary table located over a borehole. In a typical well drilling operation, the automated slip puller is attached to a slip assembly, which is thereafter placed around a drill pipe and positioned in the rotary table bushing. When the automated slip puller is activated, the pulling mechanism removes the slip assembly from the rotary table bushing and from around the drill pipe, thereby allowing the drill pipe to be manipulated in or out of the well bore. During operation, no portion of the automated slip puller is located outside the boundary of the rotary table.